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10/576,099

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R.305866

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2119 7590 04/09/2009  
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EXAMINER

MOK, ALEX W

ART UNIT

PAPER NUMBER

2834

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/576,099 | <b>Applicant(s)</b><br>EVANS ET AL. |  |
|                              | <b>Examiner</b><br>ALEX W. MOK       | <b>Art Unit</b><br>2834             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 16-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/14/06</u>   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Objections*

1. Claim 16 is objected to because of the following informalities: in the fourth line of claim 16, the phrase "...at least covering disk" should be corrected to "...at least **one** covering disk". Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 16, 18, 19, 21, 25, 26, 30, 31, and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Weiland (German Patent Document No.: DE 3021607).

For claim 16, Weiland teaches the rotor including a rotor shaft (reference numeral 3, figures 1, 2), a hollow-cylindrical magnet element (reference numeral 1), and at least one covering disk (reference numeral 5), the improvement wherein the at least one covering disk is secured to the rotor shaft (see figures 1, 2), and wherein the magnet element has a first axial end secured to the at least covering disk (figures 1, 2).

For claim 18, Weiland teaches a first covering disk and a second covering disk (reference numeral 5, see figure 1), the first and second covering disks being secured to the rotor shaft (reference numeral 3), and the magnet element being secured on its first

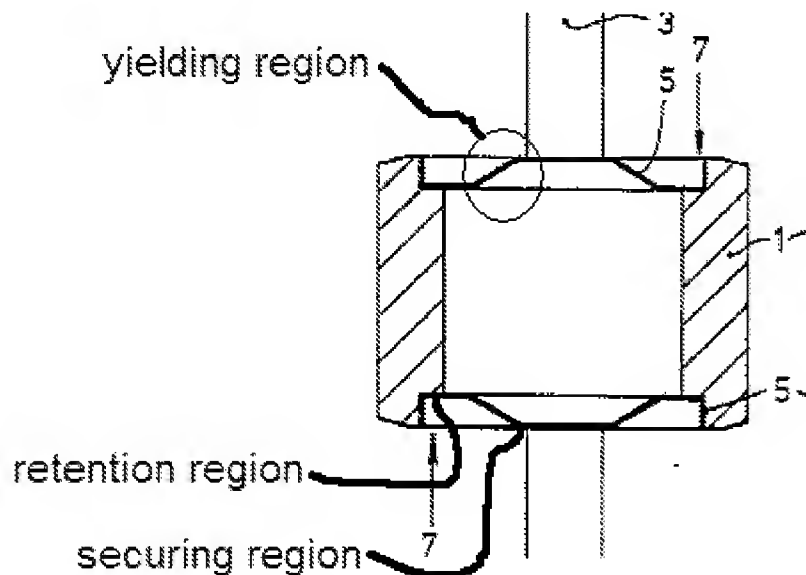
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axial end to the first covering disk and on its second axial end to the second covering disk (figure 1).

For claim 19, Weiland teaches the magnet element being secured to at least one of the covering disk by means of an adhesive (see translation, page 2, tenth paragraph).

For claim 21, Weiland teaches the magnet element being secured to at least one of the covering disk by means of an adhesive as explained for claim 19.

For claim 25, Weiland teaches each said at least one covering disk comprising a yielding region (see figure 1, and figure below).



For claim 26, the yielding region as explained for claim 25 above can constitute a bead extending in the circumferential direction.

For claims 30 and 31, the yielding region as disclosed by Weiland can be considered to be embodied as a connecting region, disposed between a securing region

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and a retention region for the magnet element, and wherein the connecting region is inclined to the securing region (see figure above).

For claim 35, since the reference of Weiland already discloses the rotor as explained for claim 16, then this invention can be applied to any type of machine, such as an electrical machine.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weiland (German Patent Document No.: DE 3021607).

For claim 28, Weiland teaches the claimed invention including the yielding region as explained for claim 25, but does not specifically disclose the yielding region comprising a region that is substantially U-shaped in section. It would have been obvious to have this configuration since this would merely involve a change in the shape of a component, which is a general skill in the art, and this would give a person of ordinary skill a way of providing temperature compensation for the changes in the length of the magnet and the shaft due to changes in the temperature.

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6. Claims 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiland as applied to claim 16 above, and further in view of Sato et al. (European Patent Document No.: EP 1075073).

For claim 17, Weiland teaches the claimed invention except for the second axial end of the magnet element resting on a shaft shoulder of the rotor shaft. Sato et al. discloses a cylindrical magnet that is resting on the shoulder of the shaft (reference numerals 18, 28, see figure 5), and it would have been obvious to include this configuration in the invention for the purpose of improving the stability of the rotor.

For claim 20, Weiland teaches the magnet element being secured to at least one of the covering disk by means of an adhesive as explained above for claim 19.

7. Claims 22-24, 27, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiland as applied to claim 16 and 25 above, and further in view of Beeh (US Patent No.: 1996946).

For claim 22, Weiland teaches the claimed invention except for each of the at least one covering disk comprising at least one radially extending slit. Beeh teaches end plates (reference numerals 5, 6, figures 1-3) having slits extending radially (reference numeral 11). It would have been obvious to have this configuration since this technique would provide a person of ordinary skill in the art with a way of giving elasticity to the disks in the radial and axial directions.

For claims 23 and 24, since it would have been obvious to have the slits in view of Beeh as explained above, it also would have been obvious to have each said at least

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one covering disks comprising a plurality of radially extending slits of different lengths and each said at least one covering disk comprising radial slits with a first length and radial slits with a second length, the first length being greater than the second length, since this would merely involve a change in the size of a component, which is generally recognized as an ordinary skill in the art.

For claim 27, Weiland teaches the yielding region comprising a bead extending in the circumferential direction as explained for claim 26 above.

For claim 29, it would have been obvious to have the yielding region comprising a region that is substantially U-shaped in section for the same reasons given above for claim 28.

For claim 32, since Beeh teaches the slits as explained above for claim 22, it also would have been obvious to have the covering disks comprise at least one slit with a length that extends from the outer circumference of the covering disk to the yielding region since Beeh teaches the slits extending from the outer circumference to the inner region (see figure 1), and this would give a person of ordinary skill a way of providing compensation in the radial and axial ends.

8. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weiland as applied to claim 16 above, and further in view of Kojima et al. (US Patent Application Pub. No.: US 2001/0048261 A1).

For claim 33, Weiland teaches the claimed invention except for a carrier body disposed inside the magnet element which the carrier body is spaced apart from the

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magnet element in the radial direction and is spaced apart from the covering disks in the axial direction. Kojima et al. teach a carrier body element (reference numeral 2, figure 4) which is separated from the magnet (reference numeral 3) and the end plates (reference numerals 6, 7). It would have been obvious for a person of ordinary skill to apply the same technique of Kojima et al. and space the carrier body apart from the covering disks and the magnets of Weiland for the purpose of minimizing magnetic losses.

9. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weiland as applied to claim 16 above, and further in view of Denk et al. (US Patent No.: 4667123).

For claim 34, Weiland teaches the claimed invention except for a cylindrical guard tube surrounding the magnet element. Denk et al. teach a cylinder (reference numeral 70) for the magnets on the rotor (see figure 4). It would have been obvious to include this tube in the invention since Denk et al. uses this technique for protecting the magnets (see column 5, lines 14-19), i.e. avoiding damage to the magnets.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX W. MOK whose telephone number is (571)272-9084. The examiner can normally be reached on 7:30-5:00 Eastern Time, 1st Friday off.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen P. Leung can be reached on (571) 272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alex W. Mok  
Examiner  
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Examiner, Art Unit 2834

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